

Work Order ID 147159

June 03, 2016 11:34:38 AM

147159

Page 1

Item ID: D206-642-541PHI Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.
Start Date: 6/3/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/20/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: SA Date: 0160603 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3274-045

110

0.00

110

Skidtubes

0.13

Skidtubes

Skidtubes

Memo

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- remove fwd indexing ridge as per dwg D3274. Prepare for welding

2- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch: M131962/M134448

3- grind fwd cap weld on top surface only

4- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

5-Drill Aft cap pilot hole using DT8025

6 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D and DT8742. Drill 3/16" pilot holes as per Dwg D3274

7 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

8 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DAS
19
9-09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																							
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____	
Misidentified ☐	Past Due ☐																																																														

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[illegible]



DART
AEROSPACE

Work Order update only ☐

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev I

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Item ID: D206-642-541PHI Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.
 Start Date: 6/3/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 6/20/2016 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 9-89
130 *130* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00				1	0	16-06-10		
150 *150* Skidtubes Skidtubes	Skidtubes Memo 1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274 2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube 3-Bond web in place as per Dwg D3274 & QSI 015. A/RSikaflex-291 134743 Sikaflex expire date: 16-12-08 Start: _____ Time: _____ Finish: _____ Time: 10:40 (Adhere for 12 hours)	0.00 0.14								16-6-10 DAS 19 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐							

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Item ID: D206-642-541PHI Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.
Start Date: 6/3/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/20/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 3-00
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00								<u>1</u> <u>0</u> <u>16-06-13</u>
170 *170* Skidtubes Skidtubes	Skidtubes Memo 1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position. 2- DRILL PILOT HOLES ***ONLY FOR WEARPADS*** USING D3274-1T2 RED SECTIONS,** SEE PAGE 4** OPEN HOLES TO .297" . Debur 3- Countersink crossbolt spacer holes as per Dwg D3274 4- Prepare for welding	0.01 0.12								<u>16-6-13</u> 

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval				
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 6/20/2016 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
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Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 8-89
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180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

190

0.00

190

Skidtubes

Skidtubes

Memo

0.20

Skidtubes

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod
A/Aluminum Rod *m131568* *BE16-6*

3-Grind cross bolt welds flush as per Dwg D3274.

*****INSPECT FOR PIN HOLES IN WELD*****

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐					
Misidentified ☐	Past Due ☐						

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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Quality Control

16-7-14



1x d ll 16/07/2015

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
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Item ID: D206-642-541PHI**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.**Start Date:** 6/3/2016 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 6/20/2016 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
244 *244* HandFinish Hand Finishing	Wing Walk as per dwg QSI005 4.4 Batch <u>M134948</u> Memo APPLY WING WALK WHERE INDICATED ON SHEET 4, AND ALSO FRONT CAP	0.00 0.07				<u>12</u>	<u>0</u>	<u>16103/22</u>	
246 *246* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>12</u>	<u>160303</u>		<u>DAS</u> <u>9</u> <u>9-89</u>
250 *250* HandFinish Hand Finishing	HandFinishing Memo 1-Install Nut Plate as per Dwg D3274. Apply LPS-PROCYON to Nut Plate and rivets. A/RN/ALPS-PROCYON <u>M133696</u> 2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/RSikaflex-291 <u>M133234</u> Sikaflex expire date: <u>16109</u>	0.00 0.15				<u>12</u>	<u>0</u>	<u>16103/22</u>	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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Item ID: D206-642-541PHI

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 6/20/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00

260

QC

Memo

0.00

Quality Control

X Memo
Inspect Nut Plate & Inserts1 ϕ 160726. 333

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 147159

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Item ID: D206-642-541PHI Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.
Start Date: 6/3/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/20/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	HAND FINISHING RESOURCE #1	0.00							
270	Memo	0.18							
Hand Finish	1- Apply coat of rockguard to skidtube where wearpads are installed as per note 14 and sheet 4.								
Hand Finishing	***LET CURE BEFORE INTALLING WEARPADS***								
	Rockguard batch: <u>M135061</u>								
	2-Install wearpads as per Dwg D3274.								
	3-Inspect for foreign objects as per QSI 024								
	4-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.								
	A/RSikaflex-291 <u>M135204</u>								
	Sikaflex expire date: <u>18102</u>								
	5- Fill gap with sikaflex as per dwg sheet 6, Detail L								
	A/RSikaflex-291 <u>M135204</u>								
	Sikaflex expire date: <u>17102</u>								

1x of all 16/06/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

Work Order ID 147159

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Item ID: D206-642-541PHI

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/20/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run

Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC5- Inspect part completeness to step on W/O	0.00							
280									DAS 9 9-89
QC	Memo	0.00							
Quality Control									
290	Identify as per dwg & Stock Location: _____	0.00							
290									
Packaging	Memo	0.00							
Packaging									
300	QC21- Final Inspection - Work Order Release	0.00							
300									DAS 21 9-89
QC	Memo	0.02							AUG 03 2016
Quality Control									

SHA 2/3/16

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		

Root Cause				FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due	☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter	☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence		
☐ OTHER : _____							

Picklist Print

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Work Order ID: 147159

147159

Parent Item: D206-642-541PHI

D206-642-541PHI

Parent Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016

Required Date: 6/20/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 16.06.03 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3274-041BENT

Manufactured

No

Each

9.0000

1

D3274-041BENT

Skidtube Assembly 206

**

Location

Loc Qty

Loc Code

LG001

9

135462

9

D2646

Manufactured

No

Each

64.0000

1

***D2646*PHI**

Aft Cap

**

Location

Loc Qty

Loc Code

FG

4

85848

2

90495

2

FP001

60

127924

1

136885

27

141214

32

D2649

Manufactured

No

Each

146.0000

12

D2649

Cross Bolt Spacer

**

Location

Loc Qty

Loc Code

LG001

146

136243

97

139629

49

12

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Work Order ID: 147159

147159

Parent Item: D206-642-541PHI

D206-642-541PHI

Parent Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016

Required Date: 6/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3275-1 Manufactured No

Each 36.0000 12

D3275-1

Cross Bolt Spacer

**

BB 16-06-14

Location

Loc Qty

Loc Code

LG001

36

133200

6

134013

9

136724

21

Each

4.0000

1

**

16-6-14

D3282-041 Manufactured No

D3282-041

Float Web (206L/407)

Location

Loc Qty

Loc Code

LG002

4

133640

4

Each

23.0000

1

**

BB 16-06-08

D3285-1 Manufactured No

D3285-1

Cap

Location

Loc Qty

Loc Code

LG001

23

121820

5

126290

18

Each

19.0000

1

**

16/02/20

D3415-041 Manufactured No

D3415-041 PHI

Nut Plate

Location

Loc Qty

Loc Code

FP001

19

121836

19

147137

X1

Picklist Print

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Work Order ID: 147159

147159

Parent Item: D206-642-541PHI

D206-642-541PHI

Parent Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016

Required Date: 6/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3537-9 Manufactured No

Each 1.0000 9

D3537-9

Wearpad

**

all 16/07/21

Location

Loc Qty

Loc Code

prelim

1

13145183

x9

137962

1

D3672-1 Manufactured No

Each 590.0000 2

D3672-1

Washer, Phenolic

**

all 16/07/26

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

38

112218

38

ST049

42

127322

42

ST051A

500

134785

500

x7

ALS4-1032-130 AEIS4-1032-130 Purchased No

Each 3,992.000 40

AIS4-1032-130

Rivnut

**

all 16/07/26

Location

Loc Qty

Loc Code

CCK005

2850

M134502

2850

FP001

1142

M133077

140

M134502

1002

x40

Picklist Print

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Work Order ID: 147159

147159

Parent Item: D206-642-541PHI

D206-642-541PHI

Parent Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016

Required Date: 6/20/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

Each

1,050.000

42

AN3C4A

**

lll 16107/2c

Bolt

Location

Loc Qty

Loc Code

FG

20

122814

20

FP001

727

M133440

7

M134396

41

M134509

6

M134606

29

M134676

44

M134762

600

OVER002

200

M134861

200

x42

ST350

103

M134134

18

M134396

85

NAS1149C0463R

Purchased

No

Each

318.0000

1

NAS1149C0463R

**

lll 16107/2b

Washer

Location

Loc Qty

Loc Code

FP001

70

m127306

70

x1

ST260a

200

m134167

200

ST266

48

m133077

48

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Work Order ID: 147159

147159

Parent Item: D206-642-541PHI

D206-642-541PHI

Parent Item Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.

Start Date: 6/3/2016

Required Date: 6/20/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

3,611.000

42

NAS1149C0332R

WASHER

**

all 16/07/26

Location

Loc Qty

Loc Code

FP001

1432

m132930

1004

M135046

x42

m134073

128

m134574

300

GA

141

m133284

141

ST266

2038

m134654

38

m134736

2000

Each

0.0000

2

CCR264SS3-3

CCR264SS-3-03

Purchased

No

CCR264SS3-3

Cherry Rivet

CR3212-4-03

Purchased

No

CR3212-4-03

Cherry Rivet

**

B128818(x2) all 16/07/26

**

M126320(x2) all 16/07/26

Location

Loc Qty

Loc Code

ST320

208

119017

208

Each

40.0000

1

MS27039C4-06

Purchased

No

MS27039C4-06

SCREW

**

all 16/07/26

Location

Loc Qty

Loc Code

ST274

40

m134889

40

x1

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Shop Packet Print

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Qty -041	Qty -043	Qty -045	Part Number	Description
X			D3274-041	SKIDTUBE ASSEMBLY
	X		D3274-043	SKIDTUBE ASSEMBLY
		X	D3274-045	SKIDTUBE ASSEMBLY (FOR PH)
1	1	1	D28C3-1-240	EXTRUSION
1	1	1	D2346	AFT CAP
12	12	12	D2849	CROSS BOLT SPACER
12	37	12	D3276-1	CROSS BOLT SPACER
1	1	1	D3282-041	FLOAT WEB
1	1	1	D3285-1	CAP
1	1	1	D3413-1	RING
1	1	1	D3416-041	NUT PLATE
9	9		D3837-1	WEARPAD
		1	D3837-11	WEARPAD
1	1		D3837-3	WEARPAD
		9	D3837-9	WEARPAD
2	2	2	D3722-1	WASHER
1	1		D4855-16	WEARSHOE
1	1		D4855-20	WEARSHOE
1	1		D4855-30	WEARSHOE
1	1		D4855-38	WEARSHOE
78	78	40	AL87-1032-130	INSERT (or AL84-1032-130, AL84-1032-130, AL88-1032-130)
80	80	42	AN8C1A	BOLT
1	1		AN4C5A	BOLT
1	1	1	NAS1148C0483R	WASHER (AN830C410)
80	80	42	NAS1148C0332R	WASHER (AN830C10L)
2	2	2	CR284553-3	RIVET
2	2	2	CR2812-4-23	RIVET
		1	MS27639C4-06	SCREW

GENERAL NOTES:

1. MATERIAL: N/A
2. FINISH:

ON -041/-043: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF. 4.2.1.3.3) OUTSIDE ONLY AND PAINT WHITE PER DART QSI 008 4.2 BLACK ANTI-SKID PAINT AS INDICATED TO 0.8" ABOVE LOCATION RIDGE PER DART QSI 008 4.4

ON -045: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF. 4.2.1.3.3) INSIDE AND OUTSIDE PER QSI 008 4.2.1 PAINT BLACK PER QSI 005 4.2.2 USING CAS213P37038 CAMOFLAGE BLACK PER MIL-PRF-68586 TYPE I CLASS H. BLACK ANTI-SKID PAINT AS INDICATED TO 0.8" ABOVE LOCATION RIDGE PER DART QSI 008 4.4

3. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
4. UNITS: INCHES UNLESS OTHERWISE NOTED
5. BREAK SHARP EDGES 0.005 TO 0.010 MAX
6. IDENTIFICATION: N/A
7. WEIGHT: FOR -041/-043 = 37.5 LBS
FOR -045 = 33.4 LBS

8. WELDING TO BE DONE PER DART QSI 004.
9. ALL HOLES DRILLED ON CENTERLINES.

10. DAMAGE TOLERANCE ON PAD BEND:

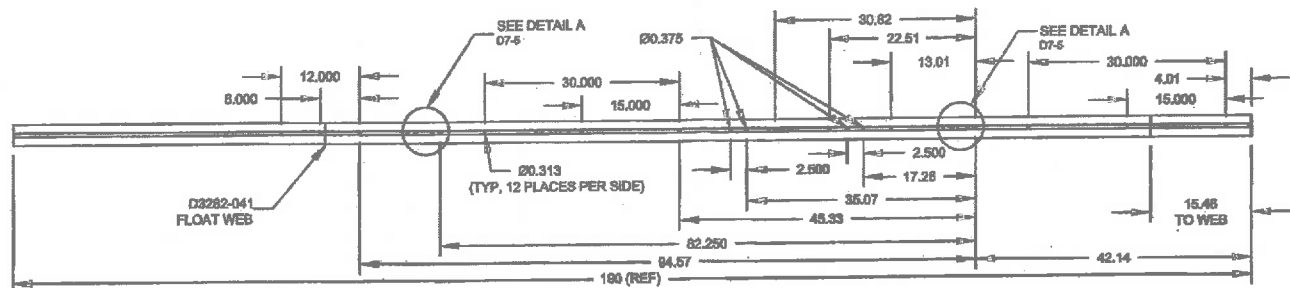
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.100" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

11. BOND D3282-041 FLOAT WEB INTO D3274-1-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
12. DRILL Ø0.297 HOLES FOR AL87-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL AL87-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX-241/291. ON -045, DO NOT DRILL HOLES OR INSTALL INSERTS FOR LONG WEARPLATES.
13. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCOYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS GREASE WITH WASH 'N WIPE DEGREASER.
14. ON -045, APPLY COAT OF ROCKGUARD TO SKIDTUBE WHERE WEARPADS ARE INSTALLED.

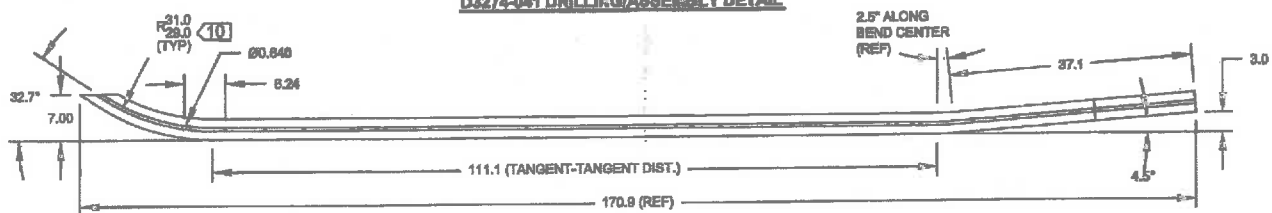
20160603

SH 147159
PRELIMINARY - 2016-05-16

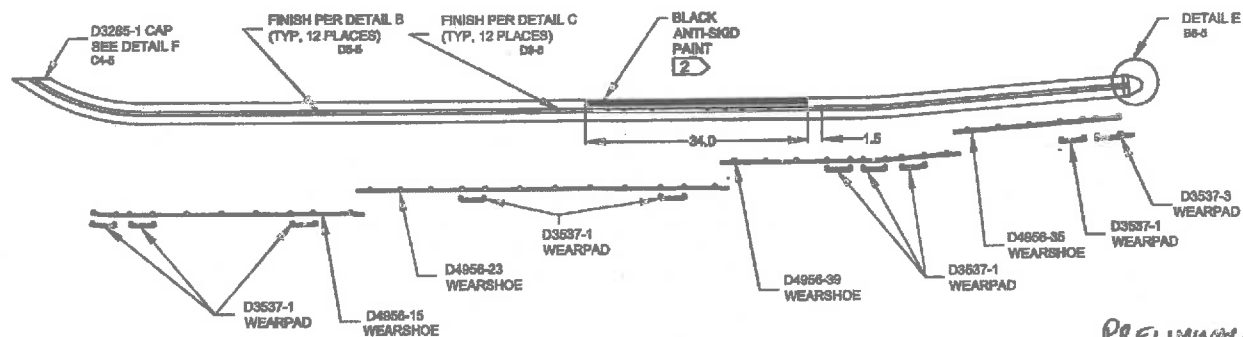
REV.	DESCRIPTION	BY	DATE
G	ADD -045 CONFIGURATION (FOR PH) ZN A5-4, A5-8 REVISE NOTE 2, 7 & 12, ADD NOTE 14 (ZN A5-1)	DS	18.04.25
F	REVISE NOTE 2: ADD ANTI-SKID PAINT, REMOVE GASKETS PER UN-D208-642 REV Q	DB	14.04.15
E	REVISE NOTE 2: FINISH NOW PRIME/PAINT WAS POWDERCOAT, REF. PAR13-256	DW	13.05.17
D	NEW INSERTS, SS WEARSHOE + GASKET	CP	08.12.19
C	ADD -043; NEW INSERTS	CP	05.03.16
B	MOVE SADDLE HOLE: 42.14 WAS 42.76	CP	04.08.09
A	NEW ISSUE	CP	04.03.15
DESIGN	CP	DART AEROSPACE USA, INC	
DRAWN	RF	EUGENE, OR	
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 1 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.	--	SKIDTUBE ASSEMBLY	NTS
DATE	18.04.25	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS AVAILABLE TO THE PUBLIC WITHOUT LIMITATION NO PART OF THIS DOCUMENT SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.	



D3274-041 DRILLING/ASSEMBLY DETAIL



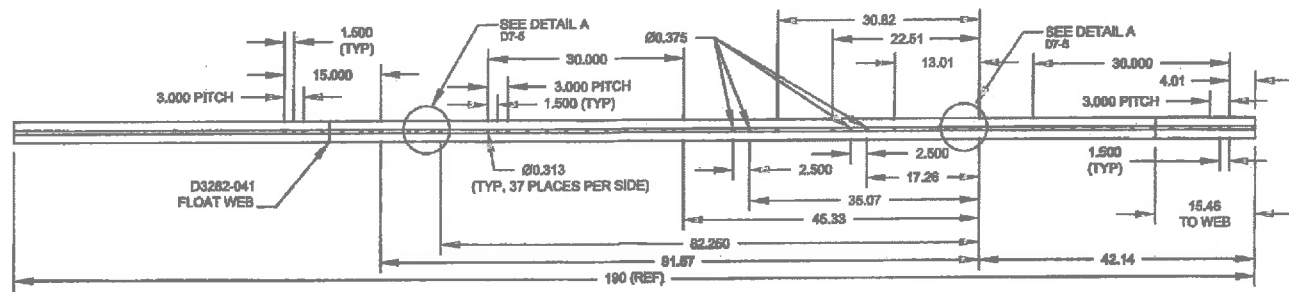
D3274-041 BEND/DRILLING DETAIL



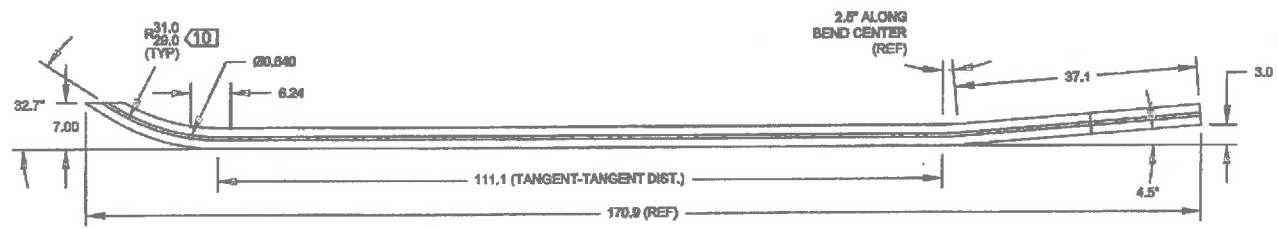
**D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)**

PRELIMINARY 16.05.16

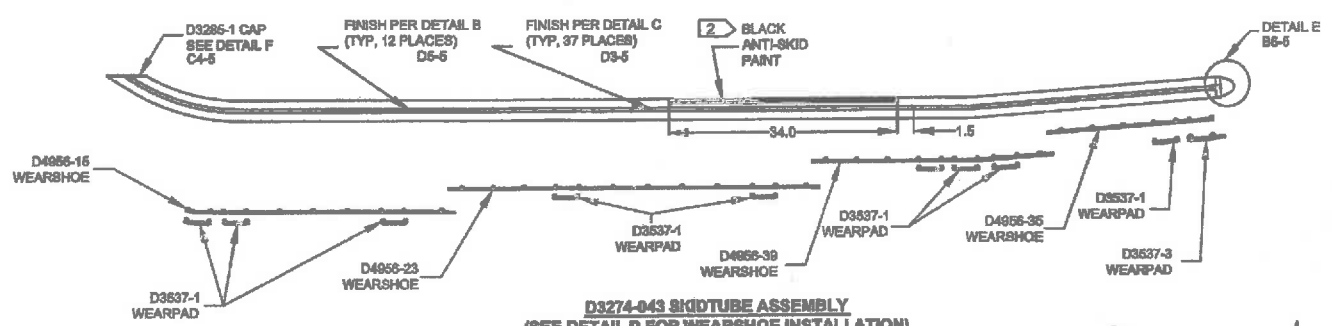
DESIGN	CP	DART AEROSPACE USA, INC	
DRAWN	RF	EUGENE, OR	
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 2 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
DATE	16.04.25	COPYRIGHT © 2004 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND PROPRIETARY, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT NOT BE USED FOR ANY PURPOSES OR DISCLOSED OR TRANSMITTED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.	



D3274-043 DRILLING/ASSEMBLY DETAIL



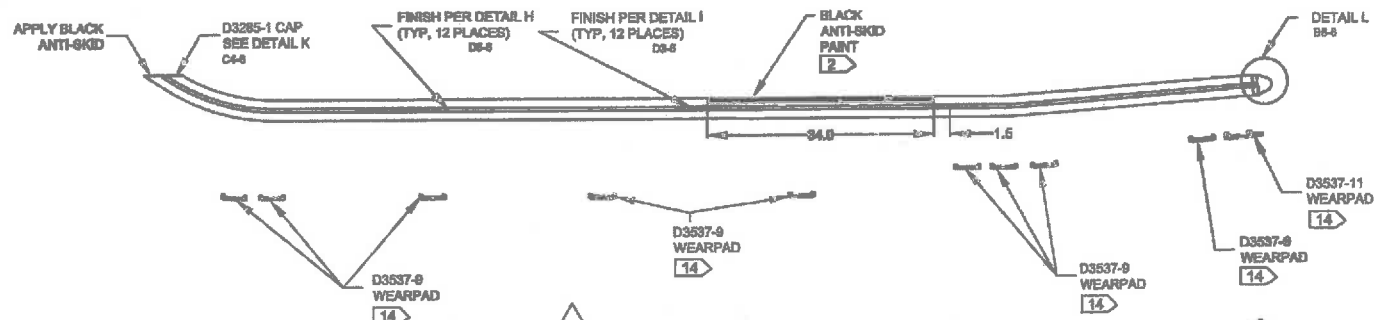
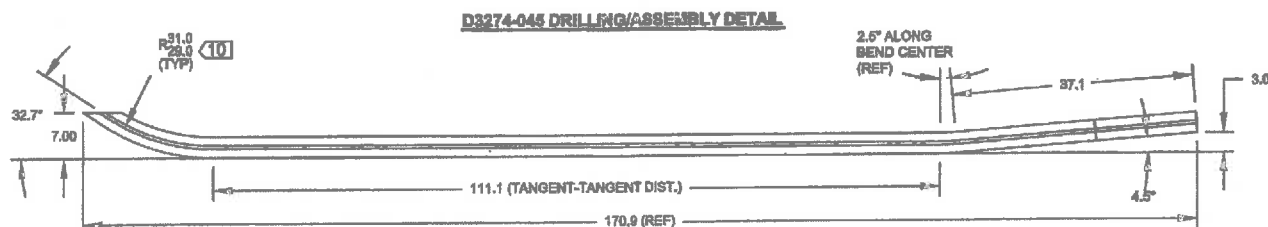
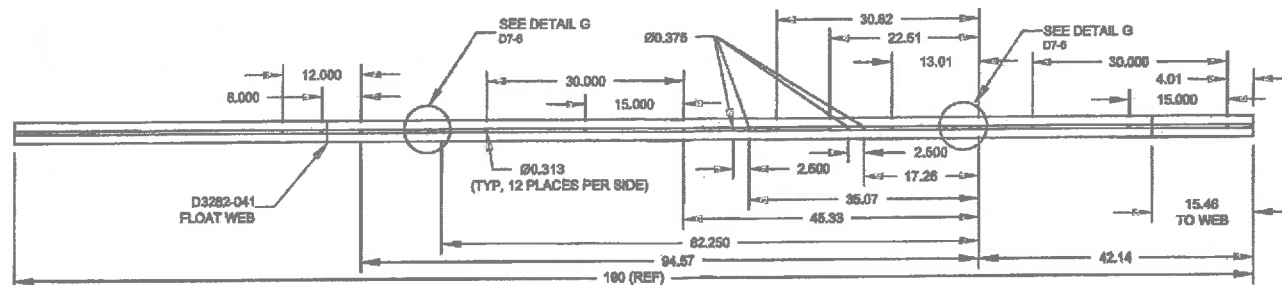
D3274-043 BEND/DRILLING DETAIL



**D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)**

PRELIMINARY 206-05.16

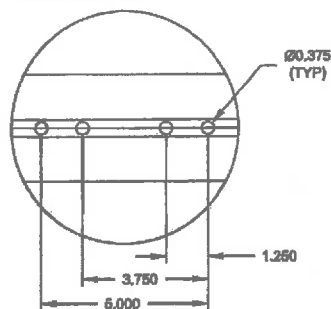
DESIGN	CP	DART AEROSPACE USA, INC	
DRAWN	RF	EUGENE, OR	
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 3 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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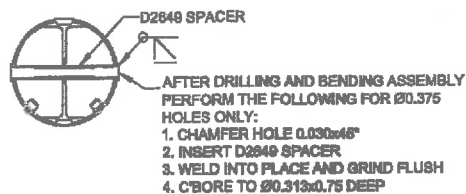
D3274-045 SKIDTUBE ASSEMBLY
(SEE DETAIL J FOR WEARSHOE INSTALLATION)

DESIGN	CP	DART AEROSPACE USA, INC	
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DE APPR.		SKIDTUBE ASSEMBLY	NTS
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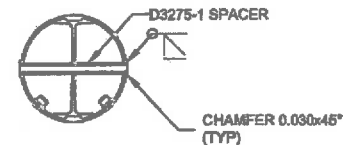
DETAIL A: DRILL DETAIL
D6-2, D3-2, D5-3, D3-3



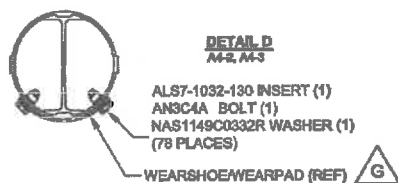
DETAIL B
B6-2, B5-3
FOR Ø0.375 HOLES ONLY



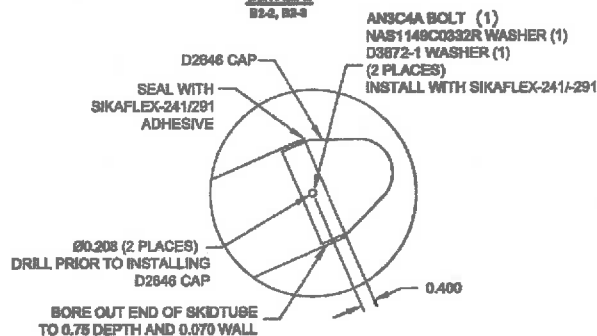
DETAIL C
B6-2, B4-3
FOR Ø0.313 HOLES ONLY



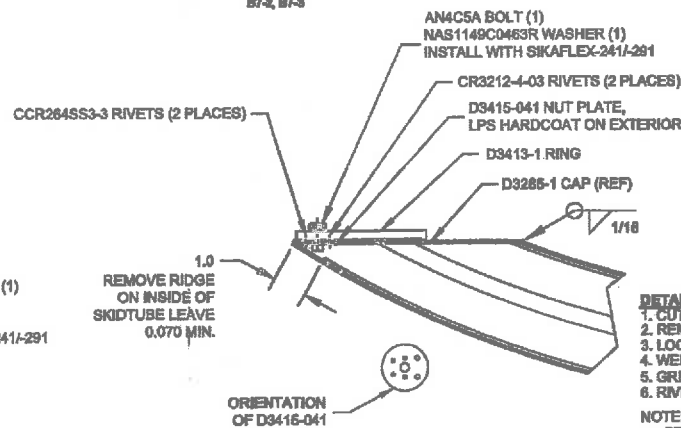
DETAIL D
A4-2, A4-3



DETAIL E
B2-4, B2-5



DETAIL F: END FINISHING DETAIL
B7-2, B7-3



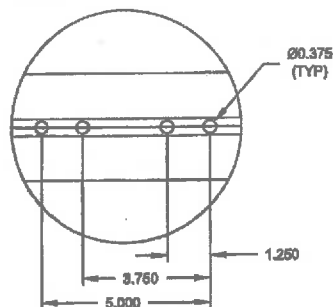
DETAIL F NOTES
1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE
NOTE: MASK THREADS IN D3415-041 PRIOR TO FINISH

PRELIMINARY 2016-05-16

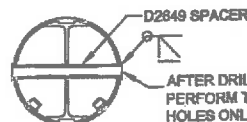
-041/-043 DETAILS

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APPROVED	DS	TITLE	SCALE
DE APPR.	C	SKIDTUBE ASSEMBLY	NTS
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DETAIL G: DRILL DETAIL
DS-4, DS-4

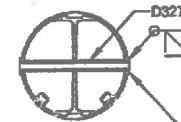


DETAIL H
BS-4
FOR Ø0.375 HOLES ONLY



- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2849 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO Ø0.313±0.075 DEEP

DETAIL I
BS-4
FOR Ø0.313 HOLES ONLY



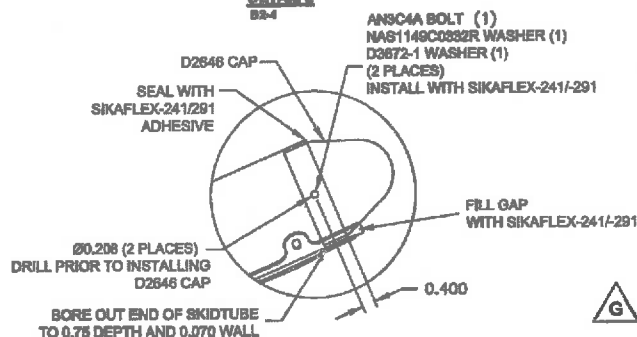
CHAMFER 0.030x45°
(TYP)

DETAIL J
A4-4



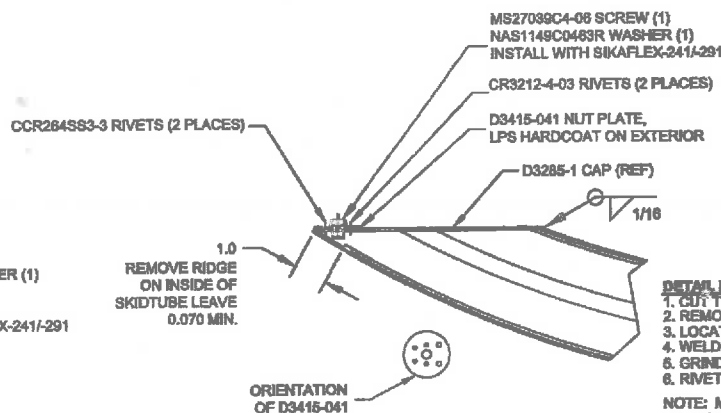
- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
(40 PLACES)
WEARPAD (REF)

DETAIL L
BS-4



- AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
D3672-1 WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/291

DETAIL K: END FINISHING DETAIL
BS-4



DETAIL K NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QS1 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

PRELIMINARY # 246-05.16

DESIGN	CP	DART AEROSPACE USA, INC	
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MFG. APPR.	JLM	D3274	SHEET 6 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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G -045 DETAILS

Qty -041	Qty -043	Qty -045	Part Number	Description
X			D3274-041	SKIDTUBE ASSEMBLY
	X		D3274-043	SKIDTUBE ASSEMBLY
		X	D3274-045	SKIDTUBE ASSEMBLY (FOR PHI)
1	1	1	D2600-1-240	EXTRUSION
1	1	1	D2646	AFT CAP
12	12	12	D2849	CROSS BOLT SPACER
12	37	12	D3275-1	CROSS BOLT SPACER
1	1	1	D3282-041	FLOAT WEB
1	1	1	D3285-1	CAP
1	1	1	D3413-1	RING
1	1	1	D3415-041	NUT PLATE
9	9		D3537-1	WEARPAD
		1	D3537-11	WEARPAD
1	1		D3537-3	WEARPAD
		9	D3537-9	WEARPAD
2	2	2	D3672-1	WASHER
1	1		D4856-15	WEARSHOE
1	1		D4856-23	WEARSHOE
1	1		D4856-35	WEARSHOE
1	1		D4856-39	WEARSHOE
78	78	40	AL57-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	42	AN3CA4	BOLT
1	1		ANMC5A	BOLT
1	1	1	NAS1149C0463R	WASHER (AN860C416)
80	80	42	NAS1149C0332R	WASHER (AN860C10L)
2	2	2	CCR264SS3-3	RIVET
2	2	2	CR3212-4-03	RIVET
		1	MS27039C4-05	SCREW

GENERAL NOTES:

1. MATERIAL: N/A

2. FINISH:

ON -041/-043: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF 4.2.1.3.3) OUTSIDE ONLY AND PAINT WHITE PER DART QSI 005 4.2 BLACK ANTI-SKID PAINT AS INDICATED TO 0.5" ABOVE LOCATION RIDGE PER DART QSI 005 4.4

ON -045: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF 4.2.1.3.3) INSIDE AND OUTSIDE PER QSI 005 4.2.1 PAINT BLACK PER QSI 005 4.2.2 USING CA8213/F37036 CAMOFLAGE BLACK PER MIL-PRF-05285E TYPE I CLASS H. BLACK ANTI-SKID PAINT AS INDICATED TO 0.5" ABOVE LOCATION RIDGE PER DART QSI 005 4.4

3. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

4. UNITS: INCHES UNLESS OTHERWISE NOTED

5. BREAK SHARP EDGES 0.005 TO 0.010 MAX

6. IDENTIFICATION: N/A

7. WEIGHT: FOR -041/-043 = 37.5 LBS

FOR -045 = 33.4 LBS

8. WELDING TO BE DONE PER DART QSI 004.

9. ALL HOLES DRILLED ON CENTERLINES.

10. DAMAGE TOLERANCE ON FWD BEND: THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

11. BOND D3282-041 FLOAT WEB INTO D3274-1/3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 016. ENSURE HOLES LINE-UP.

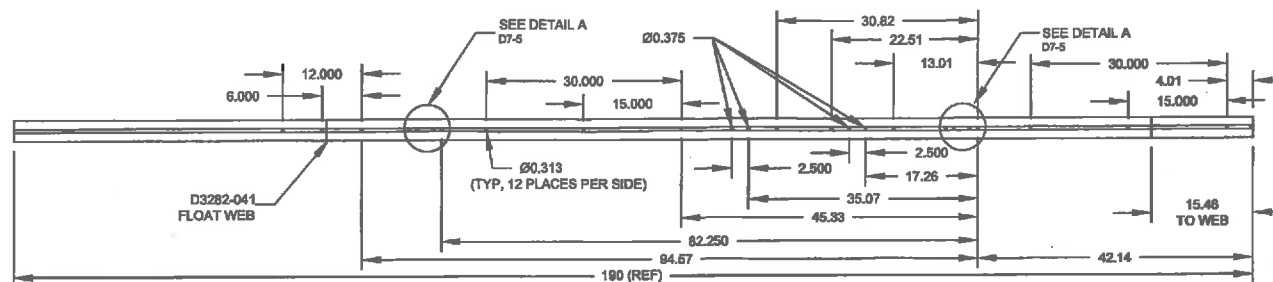
12. DRILL 0.0297 HOLES FOR AL57-1032-130 INSERTS USING DT3274-TT2 BEFORE FINISH. INSTALL AL57-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291. ON -045, DO NOT DRILL HOLES OR INSTALL INSERTS FOR LONG WEARPLATES.

13. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS GREASE WITH WASH 'N WIPE DEGREASER.

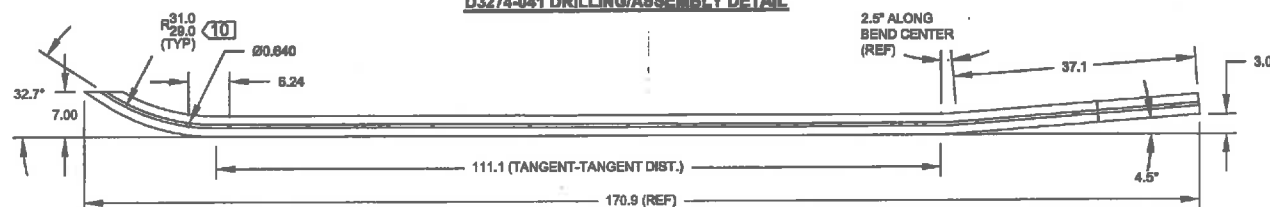
14. ON -045, APPLY COAT OF ROCKGUARD TO SKIDTUBE WHERE WEARPADS ARE INSTALLED.

G	ADD -045 CONFIGURATION (FOR PHI) ZN A5-4, A5-6 REVISE NOTE 2, 7 & 12, ADD NOTE 14 (ZN A5-1)	DS	10.04.25
F	REVISE NOTE 2: ADD ANTI-SKID PAINT, REMOVE GASKETS PER IIN-D206-042 REV Q	DB	14.04.15
E	REVISE NOTE 2: FINISH NOW PRIME/PAINT WAS POWDERCOAT, REF. PAR13-256	DW	13.05.17
D	NEW INSERTS, SS WEARSHOE + GASKET	CP	06.12.19
C	ADD -043; NEW INSERTS	CP	05.03.16
B	MOVE SADDLE HOLE: 42.14 WAS 42.76	CP	04.08.09
A	NEW ISSUE	CP	04.03.15
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	RF		
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 1 OF 6
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DE APPR.	F	SKIDTUBE ASSEMBLY	NTS
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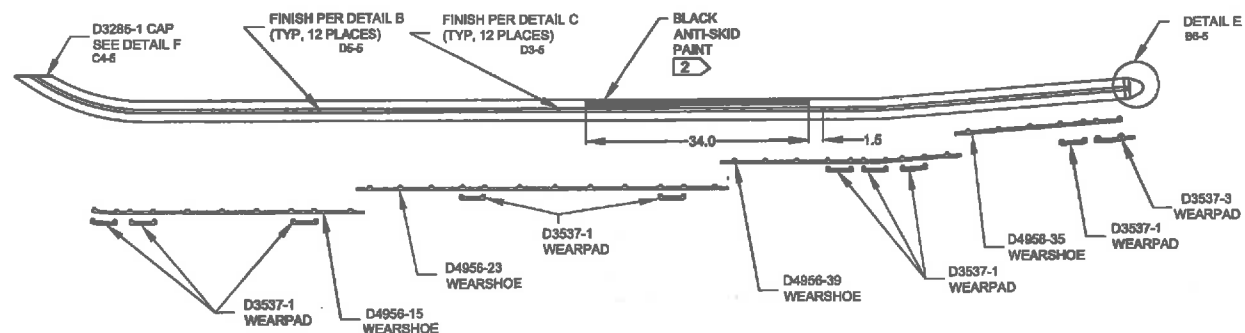
RELEASED
2016-07-26
ECU16-616



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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2016-07-26

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DE APPR.		SKIDTUBE ASSEMBLY	NTS
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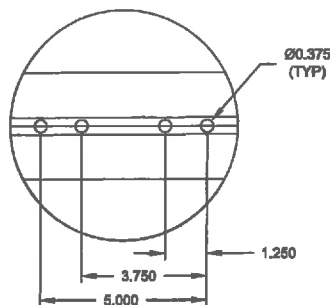


RELEASE
2016-07-26

RELEASE
2016-07-26

DETAIL A: DRILL DETAIL

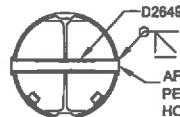
D6-2, D3-2, D5-3, D3-3



DETAIL B

B6-2, B6-3

FOR Ø0.375 HOLES ONLY



- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL C

B6-2, B4-3

FOR Ø0.313 HOLES ONLY



CHAMFER 0.030x45°
(TYP)

DETAIL D

A4-2, A4-3

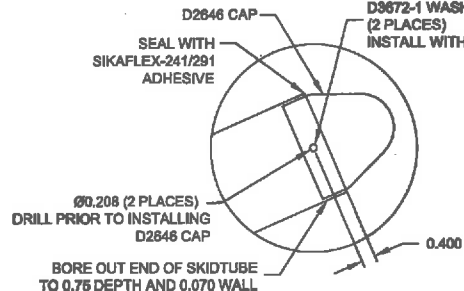


- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
(78 PLACES)

WEARSHOE/WEARPAD (REF) **G**

DETAIL E

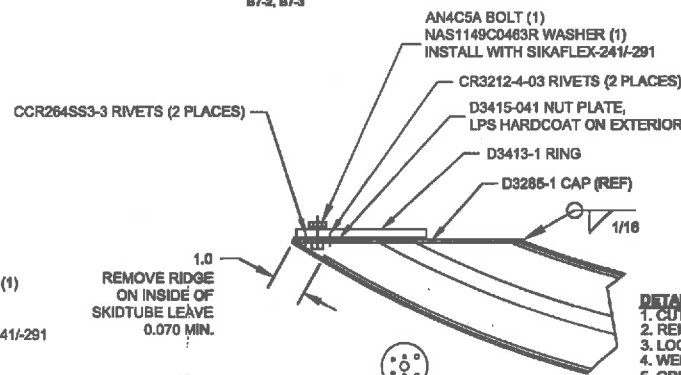
B2-2, B2-3



- AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
D3672-1 WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/291

DETAIL F: END FINISHING DETAIL

B7-2, B7-3



DETAIL F NOTES

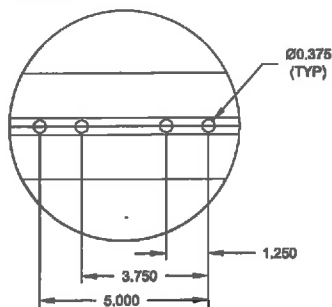
1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

-041/-043 DETAILS

RELEASED
2016-07-26

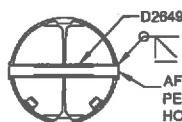
DESIGN	CP	DART AEROSPACE USA, INC	
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MFG. APPR.	JLM	D3274	SHEET 5 OF 8
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DE APPR.		SKIDTUBE ASSEMBLY	NT
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DETAIL G: DRILL DETAIL
D6-4, D3-4



DETAIL H
B6-4

FOR Ø0.375 HOLES ONLY



- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2648 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO Ø0.313±0.075 DEEP

DETAIL I
B5-4

FOR Ø0.313 HOLES ONLY



CHAMFER 0.030x45°
(TYP)

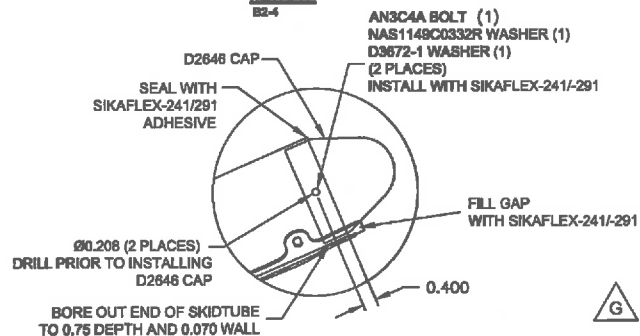
DETAIL J
A4-4



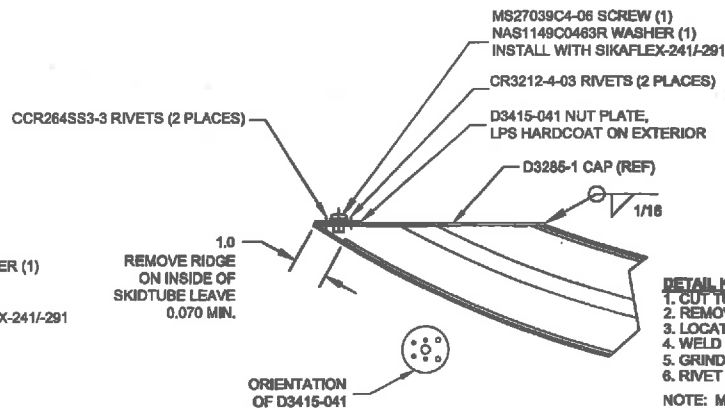
- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
(40 PLACES)

WEARPAD (REF)

DETAIL L
B2-4



DETAIL K: END FINISHING DETAIL
B7-4



DETAIL K NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH



-045 DETAILS

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DE APPR.		SKIDTUBE ASSEMBLY	NTS
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